



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF: SR-6J

VIA ELECTRONIC AND CERTIFIED MAIL

May 23, 2008

Jennifer Hale
Weyerhaeuser Company
Environment Health & Safety, WTC 2G2
P.O. Box 9777
Federal Way, WA 98063-9777

EPA Region 5 Records Ctr.



308414

RE: Plainwell Mill, Operable Unit #7, Allied Paper/Portage Creek/Kalamazoo River Site
Remedial Investigation/Feasibility Study Comments

Dear Ms. Hale:

RMT, Inc. provided a copy of the *Draft Sampling and Analysis Plan (SAP)* for the *Remedial Investigation/Feasibility Study (RI/FS)* for Operable Unit 7 of the Allied Paper/Kalamazoo River/Portage Creek Superfund Site (the Site) on behalf of Weyerhaeuser to the Environmental Protection Agency (EPA). EPA is providing comments on the SAP.

Former Wastewater Sludge Dewatering Lagoons and Aeration Basin Area

The *Preliminary Site Conceptual Model and Exposure Potential Exposure Pathways (CSP)* identifies residuals to be the primary source of contamination in this area. From this primary source, contamination is suspected to have a complete pathway to a number of receptors through surface/subsurface soil and groundwater. The proposed sampling to characterize these pathways and determine the extent of contamination in this area consists of 22 borings, from which 14 samples would be acquired from the near-surface soil (0 to 1 foot bgs) and analyzed for metals, polychlorinated biphenyls (PCB), and poly-aromatic hydrocarbons (PAH). These borings would also be used to visually determine and/or confirm the thickness of overburden and underlying wastewater materials.

The CSP does not consider the purpose of the lagoons and aeration basin, and subsequently does not consider potential for resultant contamination. The lagoons and aeration basin were used for the separation and limited treatment of waste streams from the mill. During separation, the liquid phase most likely migrated to the soil under the solid phase before traveling into the river. During this journey to the river, wastewater may have contaminated subsurface soil under the residuals and subsurface soil it interacted with on its way to the river. Additionally, fly ash was often mixed with the

residual material, which brings about the possibility for the presence of radionuclides as well as metals.

EPA recommends completing the proposed 21 borings in the lagoon area, but in addition, requests samples be collected for analysis at multiple intervals until native soil material is reached. Samples should be biased towards lithologic changes and any stained soil or residuals. The analysis of samples taken from the various intervals would include the full target compound list, target analyte list, PAHs, nitrogen compounds, phosphorus, and radionuclides. In the aeration basin, EPA requests three to four borings or a statistical sampling method consistent *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (S3TM), with samples taken at multiple intervals until native soil material is reached with a bias towards lithologic changes and any stained soil or residuals. These samples should be analyzed for the same analytes as the lagoon area. Additionally, the areas immediately adjacent to the lagoons and the aeration basin should be characterized due to the historic morphing of size and shape of the lagoons and aeration basin. A form of statistical sampling consistent with S3TM can be used to characterize soil contamination in the areas immediately adjacent to the lagoons and aeration basin, with samples taken at multiple intervals until native soil material is reached with a bias towards lithologic changes and any stained soil or residuals. These samples should be analyzed for the same analytes as the lagoon area. Additionally, consider the addition of the ingestion exposure to receptors for this area.

Northcentral Portion of Site

The CSP identifies coal fragments and the No. 6 Fuel Oil above ground storage tank (No. 6 Fuel Oil AST) to be the primary source of contamination in this area. From these primary sources, contamination is suspected to have a complete pathway to a number of receptors through surface/subsurface soil, groundwater, surface water, and wind (dust emissions). The proposed sampling to characterize these pathways and determine the extent of contamination in this area consists of 11-14 borings, from which near-surface soil samples would be acquired and analyzed for metals and PAHs. These borings would be used to determine the extent of the former coal pile storage area (FCP), subsurface fill area, and the spill near the No. 6 Fuel Oil AST. To characterize subsurface soil, 13 samples are to be taken and analyzed for metals and PAHs. Test pits are also planned in this area to assist in determining the extent of the FCP.

In the case of the No. 6 Fuel Oil AST, the *Phase 1 Environmental Site Assessment and Phase 2 Investigation* completed in 1997 reported stained soil with concentrations of semi-volatile and volatile petroleum constituents as well as lead. The report suggests the contamination is confined to an area of 150 square feet and a depth of less than six feet bgs. Recent walks of the area have shown stained soil, signs of historic leaks from the pipes leading from the tank to the pump house, and a strong petroleum odor inside the pump house. EPA requests the current size of stained soil be determined, followed

by a biased sampling effort consistent with S3TM. Also consider the addition of the ingestion exposure to receptors for this area.

The *Phase 1 Environmental Site Assessment and Phase 2 Investigation* completed in 1997 suggests coal to be the primary source of environmental concern at the FCP, with very small, if any, environmental impact, but later reports concentrations of PAHs under and between the FCP and the Kalamazoo River. EPA recommends completing borings in the locations, but in addition, requests samples be collected for analysis at multiple intervals until native soil material is reached. Samples should be biased towards lithologic changes and any stained soil or residuals. The analysis of samples taken from the various intervals would include the full target compound list, target analyte list, PAHs, nitrogen compounds, phosphorus, and radionuclides. EPA also requests borings be completed in the areas identified in the historic report to verify the conclusions of the report, but with the analyte list mentioned above. Also consider the addition of the ingestion exposure to receptors for this area.

Buildings

Buildings on site have seen much change: being built, razed and morphing with changing processes and terrain (a large portion of the Site has been filled in). The CSP identifies historic mill operations as the sole source of contamination and groundwater to be the only media affected. No borings or analysis of soil is planned in or near any buildings on site due to the lack of information regarding releases to subsurface/surface soil.

With a gap in knowledge regarding releases, a walk through of the buildings should be completed to identify areas which are suspect of release. Of particular concern are historic and current above ground storage tanks, historic and current underground storage tanks, filling stations, livery areas, railroad loading and unloading areas, storage areas, process rooms, drainage, piping and other underground conveyances. After a walk through, areas can be sampled consistent with S3TM. Also, over the course of the RI, underground piping and conveyances should be located, investigated for any material remaining within, and investigated for any releases to soil. Finally, a form of statistical sampling consistent with S3TM should take place in the area between the mill buildings and the river and the mill buildings and the mill race.

Undeveloped Areas on Site

The CSP does not take into account large parts of the Site that are currently undeveloped, and consequently no sampling is planned in these areas. These areas include the undeveloped area south of the lagoons and the multiple areas used as parking lots. EPA requests a form of confirmation or statistical sampling consistent with S3TM to be conducted in these areas. Any borings completed should extend down to native soil. Samples from these borings should be taken from multiple intervals and should be biased towards lithologic changes and any stained soil or residuals. The analysis of samples taken from the various intervals would include the full target

compound list, target analyte list, PAHs, nitrogen compounds, phosphorus, and radionuclides.

River Banks

The SAP does not call for any sampling of the river bank, but the discovery of PCBs and an oily sheen during the Emergency Action indicate there may be additional environmental concern on the river banks. EPA requests a form of statistical sampling consistent with S3TM take place along the river banks and the analysis of samples taken to include the full target compound list, target analyte list, PAHs, nitrogen compounds, phosphorus, and radionuclides.

Groundwater

In comparison to what is known about soil conditions at the Site, very little is known about the groundwater conditions. Historical sampling efforts have largely focused on soil contamination, and 1997 *Phase 1 Environmental Site Assessment and Phase 2 Investigation*, the only historic investigation to collect groundwater samples, only collected shallow groundwater samples from three locations. The SAP proposes 13 new monitoring wells and two staff gauges to characterize the Site groundwater conditions.

With so little knowledge about the condition of groundwater, EPA requests a phased investigation of the groundwater. Initially, a walk through of the Site to look for areas of concern, similar to the walk through to take place at the buildings; this would then be followed by installation of temporary wells to gather preliminary data (water levels, flow-direction, vertical aquifer profile (VAP), etc.). A broad spectrum of analytes, similar to that of the soil samples, should be used during the preliminary data collection phase. This preliminary data along with the soil data would provide insight into the number, location and screened intervals of monitoring wells and staff gauges to be installed for the second phase of the groundwater investigation. It is suggested that double cased wells be installed where appropriate. The data gathered from both phases of the investigation could be used to develop the RI and FS.

Air

Air as a media has been neglected in the SAP as well as historical sampling efforts, but with the Site's long history and analytical data documenting the presence of volatile organic compounds (VOC), EPA requests the inclusion of this media into the RI. A phased approach should also be adopted with this media; the initial step being the soil and groundwater investigations. The results of these investigations would indicate where, if at all, VOCs and semi-volatile organic compounds might be affecting soil gas and indoor air. Additionally, a membrane interface probe (MIP) could be used to detect areas of contamination (though this would have to be followed by the collection of samples to confirm the results of the MIP and to provide analytical data since the MIP

does not provide the identity or concentration of contaminants). The next phase would be to gather the appropriate soil gas, sub-slab gas, and indoor air samples.

Finally, EPA recommends a meeting between EPA, Weyerhaeuser, and the Michigan Department of Environmental Quality to discuss the comments above and the revision of the SAP. Please call me at 312-886-1434 to arrange this meeting, and thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to be 'Sam Chummar', with a stylized, cursive script.

Sam Chummar
Remedial Project Manager

cc: Eileen Furey, C-14J
James Saric, SR-6J
Michael Berkoff, SR-6J
Paul Bucholtz, MDEQ

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